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## NOTICES FROM THE LICK OBSERVATORY.

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PREPARED BY MEMBERS OF THE STAFF.

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### PHOTOGRAPH OF THE *ETA* ARGUS NEBULA.

*Knowledge* for April, 1893, contains a superb photograph of the *Eta Argus* nebula, taken by Dr. GILL at the Cape of Good Hope in March, 1892, with an exposure of twelve hours on four days. This note is written for the purpose of advising those of our members interested in such work to procure this number of *Knowledge* (price sixpence, address WITHERBY & Co., 326 High Holborn, London, W. C., England.)

*Knowledge* has printed during the past years a number of such pictures, all equally worthy of notice. But the publishers have sent out the copies *folded* so as to ruin the plates. This number is sent out rolled on a paste-board roller, and, for the first time, it is possible to preserve the plate uninjured. E. S. H.

### PRIZES OFFERED BY THE SMITHSONIAN INSTITUTION.

In October, 1891, THOMAS GEORGE HODGKINS, Esq., made a donation to the Smithsonian Institution, the income from a part of which was to be devoted "to the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man."

With the intent of furthering the donor's wishes, the Smithsonian Institution now announces the following prizes to be awarded, should satisfactory papers be offered in competition:

1. A prize of \$10,000 for a treatise embodying some new and important discovery in regard to the nature or properties of atmospheric air. These properties may be considered in their bearing upon any or all of the sciences—*e. g.*, not only in regard to meteorology, but in connection with hygiene, or with any department whatever of biological or physical knowledge.

2. A prize of \$2,000 for the most satisfactory essay upon—
  - (a) The known properties of atmospheric air considered in their relationships to research in every department of natural science, and the importance of a study of the atmosphere considered in view of these relationships.
  - (b) The proper direction of future research in connection with the imperfections of our knowledge of atmospheric air, and of the connections of that knowledge with other sciences.
3. A prize of \$1,000 for the best popular treatise upon atmospheric air, its properties and relationships (including those to hygiene, physical and mental). This essay need not exceed 20,000 words in length; it should be written in simple language, and be suitable for publication for popular instruction.
4. A medal will be established, under the name of the Hodgkins Medal of the Smithsonian Institution, which will be awarded annually or biennially for important contributions to our knowledge of the nature and properties of atmospheric air, or for practical applications of our existing knowledge of them to the welfare of mankind.

The treatises may be written in English, French, German or Italian, and should be sent to the Secretary of the Smithsonian Institution, Washington, before July 1, 1894, except those in competition for the first prize, the sending of which may be delayed until December 31, 1894.

The papers will be examined, and prizes awarded, by a committee.

Suggestions and recommendations in regard to the most effective application of this fund are invited.

It is probable that special grants of money may be made to specialists engaged in original investigation upon atmospheric air and its properties. Applications for grants of this nature should have the endorsement of some recognized academy of sciences, or other institution of learning, and should be accompanied by evidences of the capacity of the applicant, in the form of at least one memoir already published by him, based upon original investigation.

To prevent misapprehension of the founder's wishes, it is repeated that the discoveries or applications proper to be brought to the consideration of the Committee of Award may be in the

field of any science or any part without restriction; provided only that they have to do with "the nature and properties of atmospheric air in connection with the welfare of man."

All communications in regard to the Hodgkins Fund should be addressed to S. P. Langley, Secretary of the Smithsonian Institution, Washington.—[Abstract of Dr. LANGLEY's Circular, as printed in the *Scientific American*.]

#### ON PHOTO-MECHANICAL PROCESSES.

Nearly every one, nowadays, is called upon to provide for illustrations of books or papers, or, at least, to criticise illustrations which have been provided by others. Such pictures are very frequently produced by some photo-mechanical process; and it is not only convenient, but essential, to understand the general nature of the process employed. The details can safely be left to the makers of the cuts.

As a guide to the general principles underlying the principal photo-mechanical processes, I have found a paper by Mr. S. R. KOEHLER in the *Technology Quarterly* for October, 1892, (page 161), to be most satisfactory and intelligible. Pretty much everything is there given which the general reader wishes to know. The details must be sought for in special treatises. I take pleasure in advising those concerned about such matters to procure this paper.

E. S. H.

#### HONORARY DEGREES CONFERRED BY THE UNIVERSITY OF CALIFORNIA UPON PROFESSORS WEINEK AND KEELER.

On Commencement Day of 1893 the University of California conferred the Honorary Degree of *Doctor of Science* upon Professor L. WEINEK, Ph. D., Director of the Observatory of Prague, and upon Professor J. E. KEELER, B. A., Director of the Allegheny Observatory.

E. S. H.

#### LICK OBSERVATORY DRAWINGS OF *MARS*, 1892.

During the opposition of 1892 *Mars* was assiduously observed with the large telescope by Messrs. HOLDEN, SCHAEBERLE, BARNARD, CAMPBELL and HUSSEY, and with the 12-inch equatorial by Dr. BARNARD. A few drawings of the planet (showing the double canals, etc.) have already been printed in *Astronomy* and *Astrophysics* for October, 1892.